

Patent Claims

1. A method for producing an optical component from synthetic quartz glass in that a coaxial arrangement comprising an outer jacket tube, an inner jacket tube provided with an internal bore, and a core rod having a lower face end resting on an abutment within the internal bore is fed in vertical orientation to a heating zone, is softened therein zonewise and elongated to obtain the quartz glass component, characterized in that the abutment is configured as a constriction of the internal bore of the inner jacket tube.
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2. The method according to claim 1, characterized in that the constriction is provided with an axially continuous opening.
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3. The method according to claim 1 or claim 2, characterized in that the core rod comprises a core region having an outer diameter " d_K " surrounded by a cladding glass layer having an outer diameter " d_M ", the ratio of " d_M " to " d_K " ranging from 2 to 4, preferably from 2.5 to 3.5.
- 15 4. The method according to any one of the preceding claims, characterized in that the core rod is formed from butt-jointed core rod pieces.
5. The method according to claim 4, characterized in that the core rod pieces are loosely stacked one upon the other.
- 20 6. The method according to any one of the preceding claims, characterized in that a mechanical stop is provided which prevents an upward movement of the core rod in a direction opposite to the pulling direction.
7. The method according to any one of the preceding claims, characterized in that an inner annular gap having a mean gap width in the range between 0.5 mm and 1.5 mm is provided between the core rod and the inner jacket tube.
- 25 8. The method according to any one of the preceding claims, characterized in that an outer annular gap having a mean gap width of not more than 2 mm,

preferably of not more than 1 mm, is provided between the inner jacket tube and the outer jacket tube.

9. The method according to any one of the preceding claims, characterized in that the inner jacket tube is movably held in lateral direction.
- 5 10. The method according to any one of the preceding claims, characterized in that a holding cylinder of quartz glass is fused onto the upper end of the outer jacket tube.
11. The method according to claim 10, characterized in that the holding cylinder comprises a circumferential groove for the engagement of a gripper.
- 10 12. The method according to any one of the preceding claims, characterized in that a first holding means engages the upper end of the outer jacket tube, and that a second holding means engages the upper end of the inner jacket tube, the first holding means and the second holding means being mechanically independent of each other.
- 15 13. The method according to any one of claims 1 to 11, characterized in that a first holding means engages the upper end of the outer jacket tube, and that the upper end of the inner jacket tube is held on the outer jacket tube or on the first holding means.
- 20 14. The method according to claim 13, characterized in that the upper end of the inner jacket tube or a mechanical extension of the inner jacket tube is provided with an outer collar which rests on the outer jacket tube or on a mechanical extension thereof.
- 25 15. The method according to any one of the preceding claims, characterized in that the inner jacket tube has a mean hydroxyl group content of less than 1 wt ppm.

16. The method according to any one of the preceding claims, characterized in that the inner jacket tube is produced by elongating a hollow cylinder which has been mechanically treated to a final dimension.

17. The method according to any one of the preceding claims, characterized in
5 that the outer jacket tube is present as a hollow cylinder which has been mechanically treated to a final dimension.

18. The method according to any one of the preceding claims, characterized in that the outer jacket tube is provided with a downwardly tapering lower end.